

**INFLUENCE OF INSTITUTIONAL FACTORS IN TIMELY COMPLETION OF  
INFRASTRUCTURE PROJECTS: A CASE OF WORLD BANK FINANCED  
PROJECTS IN THE ROAD SUB-SECTOR IN KENYA**

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**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF  
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## DECLARATION

This research project is my original work and has not been submitted for the award of degree in any other university.


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Date: 16/11/2012

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## DEDICATION

This research project is dedicated to my husband Robert Otieno without whose support and constant encouragement this work would not have been successfully accomplished. He constantly encouraged and supported me all through. At times he had to run my errands around just to create time for me to pursue my studies. Secondly to my children who had to cope with an absentee mum just because I had to be in class; something they couldn't quite understand. This significantly denied them quality family time. I owe it all to them.

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## **ABBREVIATIONS AND ACRONYMS**

<b>AFDB</b>	African Development Bank
<b>AGI</b>	Actionable Governance Indicators
<b>AU</b>	African Union
<b>DFID</b>	Department for International Development
<b>FY</b>	Financial Year
<b>GOB</b>	Government of Bolivia
<b>GOK</b>	Government of Kenya
<b>IADB</b>	Inter-American Development Bank
<b>ICR</b>	Implementation Completion Report
<b>KACC</b>	Kenya Anti-Corruption Commission
<b>KeNHA</b>	Kenya National Highway Authority
<b>KeRRA</b>	Kenya Rural Roads Authority
<b>KIHBT</b>	Kenya Institute of Highway and Building Technology
<b>KTSSP</b>	Kenya Transport Sector Support Project
<b>KURA</b>	Kenya Urban Roads Authority
<b>MDG</b>	Millennium Development Goals
<b>MTEF</b>	Medium Term Expenditure Framework
<b>MoRPW</b>	Ministry of Roads and Public Works
<b>NEPAD</b>	New Partnership for Africa Development
<b>NTCIP</b>	Northern Transport Corridor Improvement Project
<b>ODA</b>	Official Development Assistance
<b>PAD</b>	Project Appraisal Document
<b>SAGA</b>	Semi-Autonomous Government Agency
<b>THSP</b>	Third Highway Support Project
<b>TOC</b>	Theory of Constraints
<b>UNDP</b>	United Nations Development Programme
<b>WB</b>	World Bank
<b>WWF</b>	World Wildlife Fund

## ABSTRACT

Infrastructure is an important factor in development of any given nation. The Kenya Government has invested heavily and continues to invest in infrastructure. World Bank and other development partners have also supported the country by committing large sums of money in infrastructure. Despite the importance of infrastructure and the billions of dollars committed to it, projects are never completed on time. Unfortunately this has a negative effect because delayed completion of projects results in time overrun, cost overrun, disputes, litigations and sometimes complete abandonment of important projects. Secondly, project beneficiaries are deprived of the benefits that would have accrued from timely completion of the project. In addition the reputation of the financial institution is also at stake as it is associated with such projects. This study sought to establish influence of institutional factors in timely completion of infrastructure projects: A case of World Bank financed projects in the road sub-sector in Kenya. The study used descriptive research design. A research questionnaire was distributed to 40 respondents from World Bank staff, Implementing Agencies (that is, KENHA and KURA) and Ministry of Road officials. Quantitative data was analyzed through the use of descriptive statistics, which included frequencies and percentages using SPSS. Content analysis was used for qualitative analysis. The study also conducted inferential analysis. The study found that procurement procedures in the government, poor procurement documentation and absences of procurement plans are highly significant in contributing to delays in timely completion of road construction projects in Kenya. The management style employed in the delivery of the project does significantly influence project delivery time. For a project to be successful there must be an improved appreciation of the role of project management within projects, and this role must be placed within the context of a wider project alongside other outside criteria and long-term expectations. Integrating technology into project management process could be one of the best ways that contribute to project success. There should be monitoring and evaluation at all stages of project implementation including concept and design stages, thorough project feasibility studies, formulation of policies to minimize political interference, monitoring of procurement process, adequate and proper design of projects, proper specialization of duties, tasks and responsibilities, transparency and accountability, proper financial planning and capacity building. From the findings and conclusions, for a project to be successful there must be an improved appreciation of the role of project management within projects, and this role must be placed within the context of a wider project alongside other outside criteria and long-term expectations. In addition development partners should harmonize their approval and reporting requirements, there should be frequent World Bank organized clinics on procurement and financial management, implementing agencies should be empowered to take decisions in good time. With these remedial measures, there should be an improvement in the timely completion of projects.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background

Infrastructure can be categorized into 'hard' and 'soft' infrastructure. The former refers to physical structures or facilities that support the society and economy, such as transport (ports, roads and railways); energy (electricity generation, electrical grids, gas and oil pipelines); telecommunications (telephone and internet) and, basic utilities (water supply, hospitals and health clinics, schools, irrigation). The latter refers to non-tangibles supporting the development and operation of hard infrastructure, such as policy, regulatory, and institutional frameworks; governance mechanisms; systems and procedures; social networks; and transparency and accountability of financing and procurement systems (Bhattacharyay, 2008).

Globally, infrastructure is an important factor in the development of a nation through its direct and indirect contributions to economic growth. According to a World Bank initiated study by Kessides (1994) the following three factors of infrastructure fosters economic growth: infrastructure directly or indirectly reduces costs in the production process, infrastructure induces structural change which influences production and consumption trends; and infrastructure contributes to sources of income and better income levels.

The Department for International Development DfID (2002) identified various channels through which investment in infrastructure can contribute to sustainable growth: Reducing transaction costs and facilitating trade flows within and across borders, enabling economic actors – individuals, firms, governments to respond to new types of demand in different places; lowering the costs of inputs for entrepreneurs, or making existing businesses more profitable; creating employment, including in public works (both as social protection and as a counter-cyclical policy in times of recession); enhancing human capital, for example by

improving access to schools and health centers; and improving environmental conditions, which link to improved livelihoods, better health and reduced vulnerability of the poor.

In addition, infrastructure contributes to the development of other sectors and industries, notably agriculture. It is widely acknowledged that the contribution of infrastructure to halving income poverty or Millennium Development Goal (MDG) One is more significant than the other goals (Willoughby, 2004). Infrastructure also affects non-income aspects of poverty, contributing to improvements in health, nutrition, education and social cohesion. For example, roads contribute significantly to lowering transaction costs (MDG One), raising girls' school attendance (MDGs Two and Three), improving access to hospitals and medication (MDGs Four, Five and Six), and fostering international connectivity (MDG Eight). Taken in this context, infrastructure makes valuable contributions to all the MDGs Willoughby (2004). According to Ndulu (2006) the vital role of infrastructure services in growth has been reinforced by subsequent research, especially that focusing on Africa's economic performance. Because of infrastructure importance, countries continue to invest to increase the effectiveness of their infrastructure in meeting the demands of the nation.

Kenya has invested heavily in infrastructure and according to the Road Sector Investment Plan 2010-2024 the Government of Kenya (GoK) has allocated significant resources toward improvement of transport infrastructure. For instance, transport sector budgetary allocation as a share of total Government expenditure increased from 9.5 percent in FY2004 to 14 percent in FY2010. The increased allocation in the original and actual expenditure was in line with Government commitment and recognition of the country's infrastructure including roads, airports, ports, energy generation and supply as being the foundation of the Kenya Vision 2030. The Vision 2030 is the development blueprint which aims to transform Kenya into a newly industrializing, middle-income country providing a high quality life to all its

citizens by the year 2030. The Vision aspires for a country firmly interconnected through a network of roads, railways, ports, airports, water and sanitation facilities and telecommunications (African Development Bank, 2009). Furthermore, to ensure that the main projects under the economic pillar are implemented, investment in the nation's infrastructure has been given the highest priority. Despite the importance, economic and social value of reliable and efficient infrastructure, many infrastructure projects in Kenya have experienced delays in timely completion. The Sondu Miriu Hydro Power Project stalled for a period of four years. The purpose of this project was to stabilize power and ease energy crisis in Nyakach, Kasipul Kabondo and Kano Planes. This had an adverse effect to the industries and households. The Kakuma-Lokichokio Road project is another infrastructure project that was affected by delayed completion. This was a project by the African Development Bank. The loan was signed in December 1983, declared effective in March 1987, works commenced 26 months later than the expected time and the overall delay at completion was 32 months. The objective of the project was to provide access to the Turkana District which is a remote isolated location whose population had no access to critical facilities (PPER, 1997).

### **1.2 Statement of the Problem**

Delays in project completion are insidious often resulting in time overrun, cost overrun, disputes, litigation, and in some cases complete abandonment of projects (Sambasivan and Soon, 2007), and delayed or failure in realizing intended benefits, restraining economic growth. In addition, it is an opportunity cost to the community as they cannot derive the benefits of the project in good time, and also the government as it incurs additional costs; monies that would have financed other activities given the limited budget the governments operates on. It is therefore essential to identify the actual causes of delay in order to minimize and avoid delay in projects (Ahmed et al., 2002). The factors identified in the

various studies are also common in projects in Kenya as discussed in the background information.

These studies have identified and documented various factors that have contributed to delays in timely completion of infrastructure projects however none has carried out a specific study focusing on the influence of institutional factors which are considered key in project implementation. The road projects funded by World Bank are a matter of public interest and it is evident that most of these projects are not completed on time. To be able to respond to internal and external variables in a project environment that lead to over-runs in implementation of road sector projects, it is instructive to investigate and understand how and to what extent these factors contribute to delays and costs increases.

### **1.3 Objectives of the Study**

This study intends to investigate institutional factors that influence delays witnessed in the delayed completion of infrastructure projects in the road sub-sector in Kenya financed by the World Bank with a view to determine the critical ones among them. The specific objectives were:

- i. To establish the extent to which bureaucracy influences timely completion of road sub-sector projects funded by World Bank in Kenya
- ii. To assess the influence of disbursement procedures on the timely completion of road sub-sector projects funded by World Bank in Kenya
- iii. To determine the influence of procurement procedures on the timely completion of road sub-sector projects funded by World Bank in Kenya
- iv. To establish how pool funding arrangements influence timely completion of road sub-sector projects funded by World Bank in Kenya

#### **1.4 Research Questions**

The study was guided by the following questions.

- i. To what extent does bureaucracy influence timely completion of road sub-sector projects funded by World Bank in Kenya?
- ii. What is the influence of disbursement procedures on the timely completion of road sub-sector projects funded by World Bank in Kenya?
- iii. What is the influence of procurement procedures on the timely completion of road sub-sector projects funded by World Bank in Kenya?
- iv. How do pool funding arrangements influence timely completion of road sub-sector projects funded by World Bank in Kenya?

#### **1.5 Significance of Study**

The study would be significant because delayed completion of projects results in time overrun, cost overrun, disputes, litigations and sometimes complete abandonment of important projects. Secondly, project beneficiaries are deprived of the benefits that would have accrued from timely completion of the project. Finally, the reputation of the financial institution is also at stake as it is associated with such projects. The findings of this study would (a) help inform policy makers on key issues that have implications on road construction projects, (b) provide critical feedback to the World Bank management that will inform decision making, and (c) share knowledge with other researchers interested in this area.

#### **1.6 Delimitations of the Study**

The research study was limited to the World Bank Staff, KENHA, KURA and Ministry of Roads. The study specifically focused on the World Bank funded projects in the Kenya road sub-sector.



## **1.7 Overview of the Project**

The first Chapter was an introduction, reasons for the study, research objectives, research questions, significance of the study, delimitations of the study and an overview of the project. The second Chapter reviews recent relevant studies (local and international) which have been done identifying what the objectives of these studies were, the results and gaps that have been identified; these studies will inform the current study.

The third Chapter deals with research design and methodology. This covers the research design, population, sample, data collection, and data analysis. Further, this Chapter gives insights as to how the research study data is collected and analyzed and the appropriateness of the research methods in addressing the objectives of the study. The fourth Chapter is on the discussion of the results, which include presentation and interpretation of the results. This Chapter also deals with the findings and interpretations as per objective.

The last Chapter deals with summary and conclusion of the study as well as recommendations and limitations of the research study. The extent to which the research objectives had been achieved, the lessons learnt from the results, how that knowledge could be used and the shortcomings that could arise from the research is expounded within this Chapter.

## **1.8 Definitions of Significant Terms**

<b>Disbursements</b>	Payments made to a country on loan commitments out of Financial Institution account during the year specified.
<b>Infrastructure Projects</b>	Public projects that benefit the society. They are normally in the main sectors of the economy like health, education,

agriculture, and transport.

**Procurement**

The acquisition of goods, services and/or infrastructure at the best possible total cost of ownership in the right quantity and quality, at the right time, in the right place for the direct benefit or use of governments, corporations or individuals, generally via a contract.

**Project Implementing**

These are teams with specialists created to oversee the implementation of a project.

**Units**

## CHAPTER TWO

### LITERATURE REVIEW

#### **2.1 Overview of Kenya Road Sector**

In Kenya, road is the predominant mode of transport accounting for 93 percent of all freight and passenger traffic in Kenya, but costs are high (Kenya Anti-Corruption Commission KACC Report (2007)). The road sub-sector is relatively large, with a total classified network of 160,886 km (of which 11,197 km are paved and 149,689 km are gravel or earth) and over 60,000 km of unclassified community roads (with corridors typically less than nine meters wide). This provides a reasonable network of roads in the densely populated parts of the country and some access throughout the rest. Unlike the neighbours, which have major areas without all-weather roads, the key challenge for Kenya is to bring the network in poor condition (56 percent) to good condition (currently just 11 percent), while ensuring that adequate maintenance is carried out on the rest.

The road transport industry includes large companies and individual owner operators; it is highly competitive and rates are determined by the market; the industry responds quickly to changes in demand, and road conditions and regulations. Even so, weak legal and regulatory framework has impacted negatively on the quality and reliability of services and on safety to the users (Kenya Transport Sector Support Project (KTSSP) Project Appraisal Document PAD, (2011)). In addition, the KACC report highlights the failed state of classified roads and identifies contributing factors to lack of routine and periodic maintenance, rampant corruption in road construction projects, collusion between contractors and government officials leading to approvals of sub-standard work, increased traffic volume and overloading. The sector has continued to experience challenges which have included: Weak institutional framework that is cumbersome for the efficient and efficient delivery of road works, Poor axle road enforcement, Failure of rail transport in Kenya, Shortage of engineers and other technical personnel at the Ministry of Roads and Encroachment on road reserves.

The Government has sought to address these challenges through a variety of reforms which have included establishment of a secure road maintenance funding arrangement (road maintenance levy fund); separation of funding from policy formulation and implementation functions; creation of Kenya Roads Board (KRB) and clarification of the institutional arrangements in the management and ownership of the entire road network leading to the creation of Kenya National Highways Authority (KeNHA), Kenya Rural Roads Authority (KeRRA) and Kenya Urban Roads Authority (KURA). The World Bank has been committed in this sector and has continued to fund road construction projects since 1960s and some of these projects have also experienced delays in their completion.

In the road sub-sector, the extent of cost and time overruns in the overall portfolio is high. As at February 2007, 35 on-going projects out a total of 207 showed cost overrun, translating into a cost overrun of Kshs. 7 billion. With regard to time overruns 184 projects exceeded their original completion time agreed at the tendering stage. On average, the actual time for completion was more than two times that at the tender stage (World Bank, 2007).

## **2.2 Cases of Projects Not Completed on Time**

Due to the importance of this sector to a nation, many researchers have studied this sector's operations and their findings have indicated that most projects are never completed on time due to delays. According to Faridi et al. (2006), delay is considered one of the most frequent problems in the construction industry and these delays have an adverse impact on project completion in terms of time, cost, quality and safety. Factors contributing to these delays have been identified as inadequate readiness for implementation causing delays in procurement of contractors, loan conditionalities affecting late release of funds, poor performance of contractors, low capacity of the implementing agencies, poor supervision of works and contract management in responding quickly in resolving contractual issues when they arise. In addition, failure by government to release counterpart funds in good time, delays in

payment to contractors and the resulting cash problems during construction, design changes, conflicts in work schedules of sub-contractors, slow decision making and executive bureaucracy in owner's organizations, design errors, labor shortage and inadequate labor skills among others.

Construction delays occur all over the world and many studies have been carried out to assess the causes of these delays in construction. Sambasivan and Yau (2007) stated that about 17.3 percent of government contract projects in Malaysia were considered sick, which means they are delayed by more than three months or abandoned completely (Sambasivan and Yau, 2007). According to Assaf and Al-Hejji (2006) from Saudi Arabia only 30 percent of construction projects were completed within the scheduled completion dates and the average time over-run was between 10 percent and 30 percent.

In Pakistan, it is very rare case that large construction project is completed on the time specified or agreed upon. Around 80 percent construction projects in Pakistan faced delays, and only 20 percent of construction projects were completed within scheduled time duration and estimated cost. In Kampala, Uganda northern by-pass which was to take two and a half years instead took more than five years and the cost had similarly gone up by more than 100 percent Ssepuuya (2008). Delays also lead to cost over-runs, and less and less work is performed despite the increase in construction budgets (Alinaitwe, 2008).

In Lao People's Democratic Republic, the Champasack Road Improvement Project (CRIP) was completed in May 2001 after a delay of 23 months. The objective of the project was to rehabilitate and improve the 200 km road with aim to improve transport services in the southern region (African Development Bank, 2005).

In Ghana, the construction industry is an important sector to the economy. This sector contributes an average of 8.5% of GDP Ghana Statistical Service (2007). The sector has

employed about 2.3% of the economically active population in 2002 (Amankwa, 2003). Unfortunately the sector faces major construction delays which is endemic and its economic and social impact is often discussed. According to the study by Frimpong and Oluwoye (2003) that investigated factors that cause delays and cost overruns in the underground projects in Ghana, it was found that the causes cut across all construction projects.

Kenya like the other developing countries has had its fair share of delayed infrastructure projects. Examples of such are the road construction projects financed by the World Bank shown in Table 1.1 that were not completed on time. The delays negatively impacted on both the social and economic benefits that would have accrued if the projects were completed on time. The Rural Access Road project delayed for 3.5 years. The objective of this project was to develop farm to market center access. The aim was to increase the growth rate of agriculture production in the affected districts, which would in turn improve the livelihoods of the people, provide access to critical facilities like health and education centers. According to the Project Completion Report, other than the delayed completion, only 56 percent of the construction target was achieved. This therefore means, the districts were deprived of the expected benefits that they would have enjoyed had the project been completed according to schedule. The Trunk Roads, feeder and settlements project as well as the second highway project also experienced long delay extending to three years. These delays were a cost to the government, development partners and the community.

### **2.3 Influence of Institutional Factors on Completion of Infrastructure Projects**

The influence of Institutional factors on completion of infrastructure projects can broadly be grouped under four broad themes namely bureaucracy, disbursements procedures in donor institutions, procurement processes both in the government and donor agencies and pooled

funding arrangements amongst others. These factors contribute to delays in completion of projects.

### **2.3.1 Bureaucracy**

Bureaucracy is found in both the government offices and the donor organizations. Studies by Bartholomew and Lister (2002) indicate that donors' lengthy and cumbersome procedures at the project preparation stage often cause delays and have resulted in projects taking several years to come to fruition. As a result, projects were often out of date by the time they began – project objectives were no longer relevant or appropriate; technology specified in the project design was obsolete – but the procedures involved were so lengthy and complex it inhibited those involved from making the necessary changes. Also governments' processes in developing countries are generally bureaucratic in nature. This bureaucracy leads to challenges like weak information flow and reporting overload, weak Monitoring and Evaluation (M&E) in the Project Implementation Units (PIUs), weak implementation autonomy for PIUs; and high staff turnover. The characteristics of bureaucratic organizations reflect Weber's legal-relational model, which describes bureaucracy as hierarchical, rule enforcing, impersonal in the application of laws, and constituted by members with specialized technical knowledge of rules and procedures. Despite the pressure to be accountable on the tax payers funds for public projects there is need for flexibility in handling the rules and procedures, decision making in all the activities of the projects. This flexibility is essential to drive organizations to develop the capacity to respond to rapidly changing markets and consumer preferences by establishing decentralized organizational structures and processes.

In order to properly utilize knowledge of workers, greater employee autonomy is required, and is facilitated through employee participation in decision making and teamwork rather than centralized controlled and planning (Merton and Dwyer, 2005). There has been

increased interest in management approaches that are regarded as more suited to the increasingly competitive global economic environment. There is also a recognized need for public sector organizations to be more flexible and responsive in their dealings with the public and to be more sensitive to the diverse needs of the citizens that they service. One of the well-known criticisms over the idea of bureaucracy says that this idea reduces the flexibility and active efficiency of organizations. This means that growing of the corpus of bureaucracy (its laws and rules) may affect the efficiency of a system and reduce the flexibility of it by getting larger and larger (Merton and Dwyer, 2005).

Bureaucracies in large forms are apparently causes of reduction of creativity among employees. Because when every specific action has previously designed to happen in just few allowed areas and forms. It follows that there would be no room to have a creative way of doing routine tasks, to mention that why this is a kind of disadvantage it is useful to consider the growing sense of dissatisfaction among the employees of mechanistic organization. It is also important to note that the mechanical thinking about business organizations comes from the idea of bureaucracy and leads to the thinking mechanistically not only about the organization but also about people who work in such an organization. According to Morgan (1995), employees often spending many hours a day on work neither value nor enjoy it. Working under inflexible rules and without any creativity makes the employees unsatisfied which means less efficiency.

The public sector is more prone to bureaucratic nature of project managements. It is generally claimed that the public organization is more bureaucratic than the private due to the ownership, funding and control. In the Government of Vietnam the decision making process on Official Development Assistance (ODA) assistance is lengthy as approvals go through many government departments. This also applies to signing of loan agreements and subsidiary agreements with the project implementing units. Boyne (2002) showed that the



internal characteristics of public agencies can be viewed more bureaucratic because of the government's inherent sovereign political authority and breath of mission. According to Crozier (1964) there is a vicious circle of bureaucracy dysfunctions, and its effects include inflexibility, red tape, indifference, insensitivity, officiousness and blockage of information flow. Further Assaf, et al. (1995) while studying the causes of delays in large building construction projects in Saudi Arabia concluded among other factors slow decision making and executive bureaucracy in organizations impacted on the completion of projects.

In India, the execution of infrastructure projects requires active cooperation of several departments within as well as among various ministries. An article in the Business Daily Newspaper of April 16, 2012 reported that government bureaucracy might delay development of the Menengai project in the country ie bureaucracy in processing funds might delay progress in Kenya. In addition, the World Bank report ICR (2005) indicates that the Ministry of Finance countersigns contracts and this is reported to contribute to delays in commencement of contracts. It is evident from the discussion above that due to the hierarchical nature of government departments', there is inherent weakness in inducing the desired efforts from the people involved. Because of this infrastructure projects face the consequences of organizational failures within the sponsoring ministry itself. As these projects need joint efforts of several other organizations, they face both intra-organizational and inter-organization failures. Several reports, including the official ones, corroborate these claims Bolton and Dewatripont (2005).

### **2.3.2 Disbursement Procedures**

Disbursement delays are defined as the timing between the pledge by financier to give aid to a country and the time the country receives the money. Leurs (2005) defines delay to first disbursement as the timing in number of days, between the approval date of the project by the international development agency pledge and the date of satisfaction of all the conditions

by the country such that the donor can release the first tranche of its financing. In a study of 77 countries between 1975 and 1977, Bulir and Lane (2002) found that the variance of aid receipt was almost nearly five times greater than that of the tax revenues. The figure below shows the disbursement ratio of World Bank financed projects in the African region since 2002 to date.

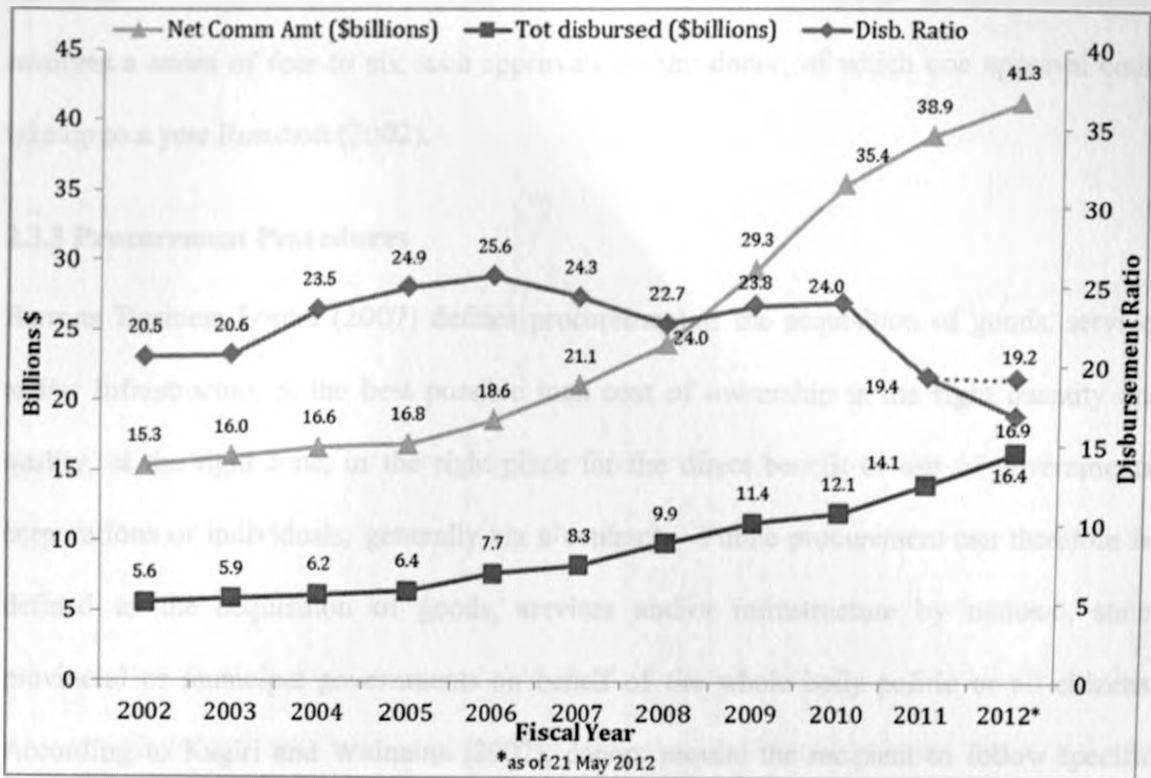
The delay in procurement is because of the time needed to look at all the complaints from bidders who say that they have not been treated fairly in evaluation. These delays are normally experienced at start-up phases The Daily Star (2012). According to Northern Transport Corridor Improvement Project (NTCIP) in Kenya, about 90 percent (US\$ 186 million) of the credit proceeds (US\$ 207 million) was committed but disbursements were still low at about US\$ 98 million as of February 15, 2009. This was due to delay in start-up activities arising from overall country-level concerns that resulted in a detailed implementation review of four World Bank financed projects, the post- election violence of 2007 that delayed the physical implementation and processing of the request for additional financing, and staff changes within the project management unit for the road component. The Mombasa-Nairobi Highway project of 2005 also experienced disbursement delays as the government delayed in releasing the counterpart funding as stated in the terms of contract.

The procurement processes were thought to take too long to complete, as decisions regarding approvals were delayed and similarly, procedures prescribed by donors were considered to be a cause of delays In the World Bank project, The Second Highway Sector Project, the disbursement rate at the implementation was less than US\$1million (1 percent) compared to a forecast of US\$59 million. These delays were attributed to lack of proper coordination, review and finalization of projects and procurement documents. The documents did not meet the World Bank standards therefore causing delays. The AfDB project, Rural Health Project II, was approved and signed in July 1998. A period of 16 months elapsed between loan

signature and first disbursement, including a slippage of five months for loan effectiveness. The Project Management Unit and the Project Steering Committee were set up in 1999 and the first disbursement of the loan was effected in November 1999. Due to the delay in project start-up and project implementation, the initial last date of disbursement of 30<sup>th</sup> December 2002 was extended four times to 30<sup>th</sup> December 2006.

Quite often government rules were said to be in conflict with donor/lender rules. From the discussion it is evident that disbursement management contributes to delays in projects. This can be attributed to both the donors and the government where donor processes are lengthy and cumbersome and the government on the other hand either not playing their part or do not have the capacity to meet the required standards. Another related common donor practice is to slow down disbursement during the pre-election periods. There are two reasons given for this; first, donors fear that funds may be diverted for political campaigning and second, concentrating aid flows at the start of a new administration is seen as a way of both highlighting to the incoming administration the important role of aid and also of applying political leverage over the new government on fundamental policy issues Nick (2002).

**Figure 1: Portfolio Size and Disbursements by Year (billions \$, FY02-12)**



Source: World Bank

Figure 1 above provides evidence of the extent to which disbursement is a problem by showing the level of disbursements compared to the commitments. Commitments have been made of huge sums of money yet the rate of disbursement is low. The gap has continued to widen as the years progress which makes this a problem that needs to be studied and addressed. From previous studies, disbursement problem has been known to contribute to delayed project completion (Leurs, 2005). Complaints have been raised that donors are generally very slow at delivering what they promised. Both the preparation and implementation stages were consequently seriously affected. Borrowers feel that donors are quick to make funding pledges, but as soon as one gets to the details of the intervention and the conditions for delivering the funds, serious delays built up. In Tanzania examples of five to ten years' delay were mentioned in the water and road sectors, which were self-reinforcing since early feasibility and design studies became obsolete and had to be redone. At the

implementation stage, the main complaint was the excessive time taken to issue 'no-objection' in connection with procurement processes. One procurement operation usually involves a series of four to six such approvals by the donor, of which one approval could take up to a year Ronsholt (2002).

### **2.3.3 Procurement Procedures**

Barrons Business Forum (2007) defines procurement as the acquisition of goods, services and/or infrastructure at the best possible total cost of ownership in the right quantity and quality, at the right time, in the right place for the direct benefit or use of governments, corporations or individuals, generally via a contract. Public procurement can therefore be defined as the acquisition of goods, services and/or infrastructure by national, state, provincial or municipal governments on behalf of the whole body politic or all citizens. According to Kagiri and Wainaina (2007), donors require the recipient to follow specific rules (i.e., procurement guidelines) for identifying the contractor who constructs the road and to set up specific financial management systems to oversee the use of donor funds. These often donor specific rules and guidelines are meant to ensure that donor resources are used efficiently and economically, but at the same time can lead to fragmentation and aid complexity. Procurement is an important aspect and if not managed well, then project aid can be withheld, disbursements can be delayed, contracts can be cancelled and worse still contractors debarred from doing business with development partners which can be a costly affair.

Kenya through The Public Procurement and Disposal Act, 2005 created the Public Procurement Oversight Authority (PPOA), the Public Procurement Advisory Board (PPAB) and the continuance of the Public Procurement Complaints, Review and Appeals Board as the Public Procurement Administrative Review Board (PPARB). The PPOA is mandated with the responsibility of (a) ensuring that procurement procedures established under the Act

are complied with, (b) monitoring the procurement system and reporting on its overall functioning, (c) initiating public procurement policy and (d) assisting in the implementation and operation of the public procurement system by (i) preparing and distributing manuals and standard tender documents and (ii) providing advice and assistance to procuring entities. Unfortunately, development partners still find the country systems in the developing countries weak and therefore to guard their interests, they insist on using their procurement guidelines.

It is evident from the discussions above that procurement is an important aspect of the project implementation and has many parties involved namely development partners, government, implementing agencies and contractors. Procurement delays can therefore arise on the projects from various parties involved. The contractors are responsible for the procurement of materials and equipment in all the contracts. For multi-contract projects, where the engineer had dual role of designer and supervisor on the civil contracts, many factors interplay leading to delays. On some contracts, there are delays by contractors in releasing of procurement drawings, delays in provision of design information from supply contractors to the engineer's designers to prepare procurement drawings. Delays are also experienced in the tendering system, preparation of the bidding documents, approval by the development partners on the documentation submitted as it has to meet the set standards. The several approval stages in procurement can also lead to delays especially in high-value contracts as they have to go the highest levels for approval. At the World Bank high value contracts are approved by the Regional Procurement Management and might therefore take longer than the low value contracts (McCormick , 2005). Materu (2002) cites that stringent conditions for pre-qualification and tendering, lack of transparency in the procurement of public works, and lack of affirmative policies for the promotion of local contractors as contributing factors to the lack of effectiveness and mediocre performance of donor-funded

projects, even resulting in unfair competition and corruption. For donor-funded projects in the construction sector that are normally focused on infrastructure development and maintenance, procurement management is essential to timely completion, which may sometimes involve several procurement processes in order to deliver complex construction projects.

In Vietnam procurement procedures were identified as a major issue for three reasons: Due to their complicated, time consuming and costly nature, with the added complication of differing rules for each donor. Due to restrictions placed on local companies that prevented them from participating in bidding. Hence, for instance, some donors would not let state owned enterprises bid if they were connected to the Ministry involved, while contractors could only be from outside the province in which the project would be undertaken. This was felt to exclude those firms with the most appropriate local experience. If aid is tied then choice is restricted, the equipment purchased is not always of an adequate quality or compatible with existing equipment and it is always more expensive than in a competitive bid. Thus tied aid was cited as a factor that most diminishes the value of aid. In addition respondents noted that donors' lengthy and cumbersome procedures at the project preparation stage often cause delays and have resulted in projects taking several years to come to fruition. As a result, projects were often out of date by the time they began – project objectives were no longer relevant or appropriate; technology specified in the project design was obsolete – but the procedures involved were so lengthy and complex it inhibited those involved from making the necessary changes. According to Bartholomew and Lister (2002), in Egypt it was felt that some donor procedures constitute a barrier to ownership and participation.



#### **2.3.4 Pooled Funding Arrangements**

In the case of pooled funding arrangement, the multiple processes, and fulfilling the different requirements from, each donor imposes a drain on the resources of partner governments and causes delays in projects. There is a lot of inconsistency among donors in the multiple and diverse requirements Nick (2002). Using donors' auditing procedures each donor demands a separate financial and technical reporting system which are adapted from their domestic procedures. This is very difficult for a country to comply with all of them and keep all the donors satisfied ODI (2000). An example of this was the development of the Bolivia's antipoverty strategy funded by the World Bank, Inter-American Development Bank (IADB), United Nations Development Programme UNDP, Sweden and Canada. This was an annual sample household survey that measured changes in household poverty levels. Each donor demanded a separate financial and technical reporting system. The government official estimated that 45 percent of time is spent on complying what the different donor reporting and monitoring needed and did not have enough capacity to assist and yet the donors are very inflexible and impose high levels of conditionality regarding the use of their funds and refused to finance the fieldwork that lies at the heart of the sampling exercise.

In Kenya, there are multiple donors funding an electricity power generating project managed by Kenya Generating Company. The challenge in the execution of the project is that the project is divided into components and each component is funded by different donors. Some of the components cannot be executed before others. Delayed financing by one donor has affected the commencement of the other components leading to overall delay in the project. In addition, due to the multiple procedures like the review of procurement documents, conditions may be different depending on the donor. This will definitely delay procurement which has an impact on the project schedule. In addition, Poul Sihm sites that the constraint in pooled funding in project financing occurs in the area of counterpart financing by



governments, in which salaries for local staff and other local currency costs for the project are met from national development budgets while aid financing is used primarily to cover foreign exchange expenditures. The desire to attract maximum foreign exchange may lead to over commitment on the part of the government, resulting in delays in project implementation and eventual collapse of the project.

Loans administered in accordance with often rigorous procedures which confound project administrators, who consequently tend to interpret loan and appraisal documents too rigidly; adds unnecessary inflexibility to project implementation. Disbursement and control procedures are complex and the administrative procedures of the different agencies lack adequate standardization. These problems are compounded when funding for a large-scale project is provided jointly by several multilateral or bilateral agencies.

Contrary to the discussion above, the trend towards increased consolidation of funding streams and centralisation of funding mechanisms has been driven by a number of very real shortcomings: *Inadequate operational coordination*. Effective humanitarian coordination has been a challenge for years. Pooled mechanisms aim to improve coordination by strengthening the link between coordination priorities and funding decisions. *Limited donor capacity*. Donors have an understandable desire to minimise their internal overhead costs relative to programme expenditures. *Poor donor alignment*. The Paris Declaration of 2005 affirmed the need to reduce the 'fragmentation' of development-oriented aid flows by aligning donor contributions with shared assistance frameworks. Donors are now applying similar principles to their humanitarian funding, moving towards support for clear and broadly-agreed assistance strategies under the cluster system.

In pooled arrangement the notable delays are occasioned by the complicated procurement procedures, disbursement procedures, financial management procedures and the general

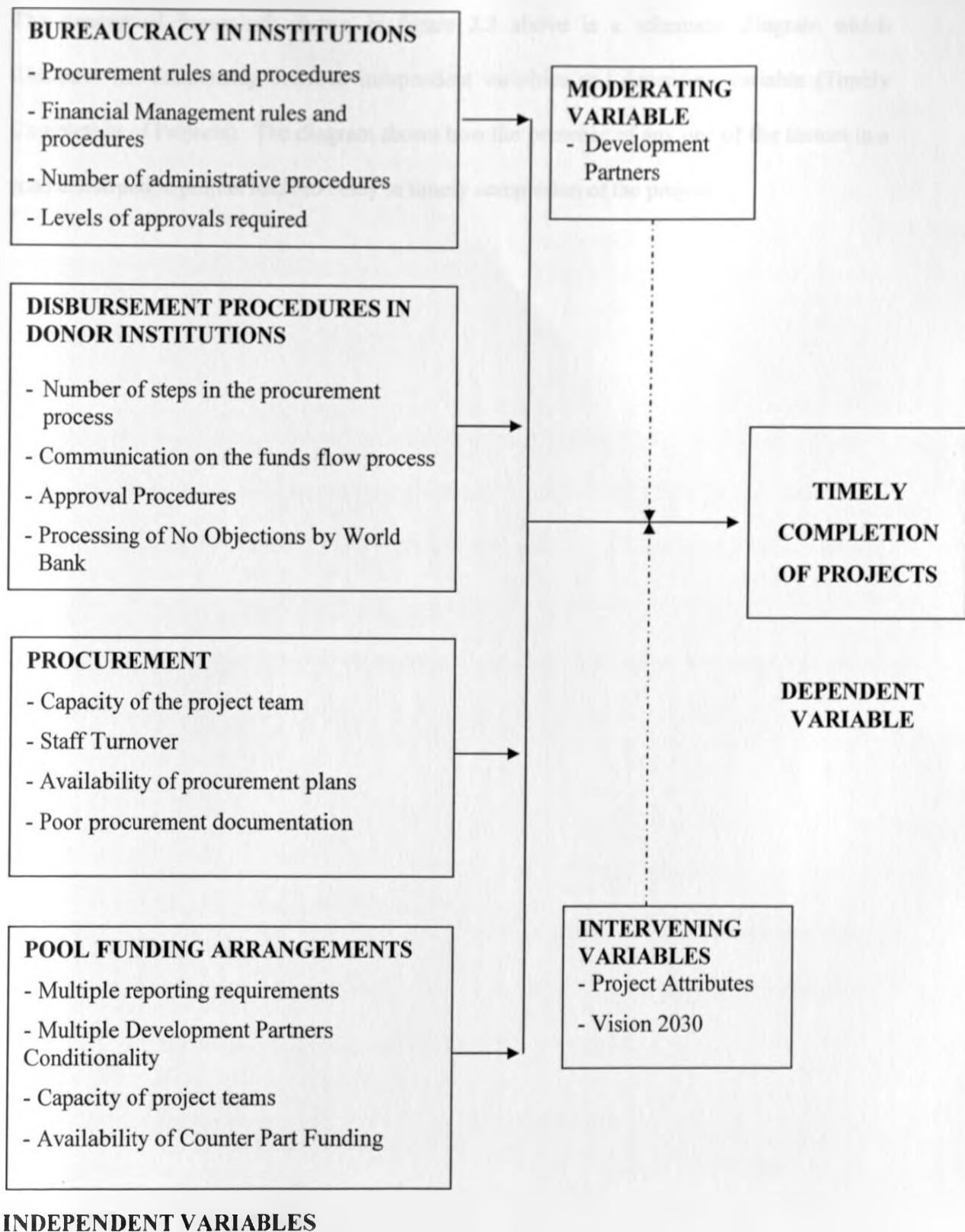
administration procedures which are multiple depending on the number of donors involved in a project. These cause serious delays in implementation.

#### **2.4 Theoretical Framework**

Eli Goldratt (Goldratt, 1984) started the Theory of Constraints (TOC), and based this management theory that every system has at least one constraint limiting it from getting more of what it strives for. If this were not true, then the system would produce infinite output. The TOC has been applied to production planning, production control, project management, supply chain management, accounting and performance measurement, and other areas of business as well as such not-for-profit facilities as hospitals and military depots.

These constraints determine the output of a system whether they are acknowledged or not. Therefore, it is in a manager's best interest to identify and reduce the system constraints within the organization. The TOC is both descriptive and prescriptive in nature; it not only describes the cause of system constraints, but also provides guidance on how to resolve them. This theory refers to systems in organizations as chains. A system is a collection of interrelated, independent processes that work together to turn inputs into outputs in the pursuit of some goal. The weakest link is the constraint that prevents the system from doing any better at achieving its goal.

This theory can be applied to factors that contribute to the delay in completion of road construction projects. The presence of any one factor in the project will cause delays in its completion. Therefore it is the responsibility of the project teams to identify such factors and seek ways to avoid or minimize them for effective completion of projects.



**Figure 2: Conceptual Framework**

The conceptual framework shown in figure 2.2 above is a schematic diagram which illustrates the relationship between independent variables and dependent variable (Timely Completion of Projects). The diagram shows how the presence of any one of the factors in a road construction project leads to delay in timely completion of the project.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This Chapter specifies the nature of the research design and the population to be studied. The structure adopted was research design, target population, sampling techniques, data collection techniques and data analysis methods that will be followed in the research process.

#### 3.2 Research Design

The study was descriptive in nature as it was deemed appropriate because it involved use of written questionnaires administered to respondents. Kothari (1985) recommends descriptive design as it allows the researcher to describe, record, analyze and report conditions that exist or existed. A case of World Bank financed projects of the road sub-sector in Kenya was used. The findings were generalized to apply to the entire infrastructure sector in Kenya. This had the advantage of providing an in-depth investigation of the problem that was under study.

#### 3.3 Target Population

The population of interest in this study consisted of World Bank Staff, Project Implementing Agencies and the Ministry of Roads staff as shown in Table 3.1. The researcher targeted this population because they are knowledgeable in the area under study.

**Table 3.1: Target Population**

Categories	Target Population
World Bank Staff	150
Implementing Agencies	200
Ministry of Roads	50
<b>Total</b>	<b>400</b>

### 3.4 Sampling Procedure

The sampling design used for the study was purposive, stratified and simple random where the population was divided into homogenous strata of World Bank staff, Implementing Agencies and Ministry of Roads as indicated in Table 3.2. Thereafter simple random sampling method was used to select the required sample in order to give every member of the population an equal chance of being selected and therefore avoiding biasness. Mugenda & Mugenda (1999), suggests that for descriptive studies 10 percent of the accessible population is enough sample. In this study the sample size was 10 percent of the 400 population as indicated in table 3.2 below.

**Table 3.2: Sample Size**

Categories	Target Population	Sample Size
World Bank Staff	150	15
Implementing Agencies	200	20
Ministry of Roads	50	5
<b>Total</b>	<b>400</b>	<b>40</b>

### 3.5 Research Instrument

Questionnaires were used as the instrument of data collection. The design of the questionnaire was based on institutional factors influencing delays in road construction projects. The research questionnaire assessed the perceptions of respondents on the various factors identified by the researcher and the relative importance of the factors.

The questionnaire comprised two parts; Part A captured general information of the respondents. Part B focused on factors (independent variables) influencing delays in project completion those sourced from the respondents and those from literature reviewed by the researcher. This part gave each respondent an opportunity to identify variables that they perceive to have influenced delays by responding on a Likert scale from 5 (very high) to 1

(very low). In this section the respondent to provided their opinions, comments and recommendations. It was assumed that those respondents who participated in the study were knowledgeable on the subject.

### **3.6 Validity of the Instruments**

Validity of a questionnaire refers to the extent to which it measures what it claims to measure Mugenda & Mugenda (2003). It is the degree to which results obtained from the analysis of the data actually represent the phenomena under the study. To improve validity, the instrument was pilot-tested among three representatives from each stratum namely the World Bank staff, Government officials in the Ministry of Roads and project implementing agencies namely KENHA and KURA before wider distribution.

### **3.7 Reliability of the Instruments**

Mugenda and Mugenda (1999) defines reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. Berg (1998) explains that, the use of consistent and systematic line of questions for even unanticipated areas is particularly important for reliability and for possible replication of a study. The researcher used consistent and systematic questions in the questionnaires. The questions were related to the subject of the study. Of key importance, instruments should be initially piloted to small numbers of respondents to verify whether the questions are easy to understand, appropriate to the research topic, unambiguous Fellows and Liu (2003), and to gain some idea of the time required to administer the questionnaire. It is also important to get feedback and input on other important issues that may be worthy of consideration, that the initial instrument may have missed. This also gives the researcher an indication of whether the instrument is measuring the right concept, hence its validity and reliability.

### 3.8 Operational Definition of Variables

Indicators will be denoted by the main variables under the study in order to render them measurable.

**Table 3.3: Operational Definition of Variables**

VARIABLE	TYPE OF VARIABLE	INDICATORS	MEASURE
Bureaucracy	Independent	- Approval Procedures - Rules and procedures (i) Procurement guidelines (ii) Financial Management Requirements	How many
Disbursement Procedures	Independent	- Steps involved in disbursements - Communication of funds flow	How long Effectiveness
Procurement	Independent	- Awareness of Donor processes - Bid evaluations	Time taken to process procurement document
Pooled Funding Arrangements	Independent	- Strong donor collaboration - Allocation of government resources	- Effectiveness of the system - Percentage
Delayed Completion of Projects	Dependent	- Budget - Time frame	Percentage



### 3.9 Data Analysis Techniques

Two types of data were collected in this study; qualitative and quantitative, and hence two types of statistical analysis were used. Quantitative data was analyzed through the use of descriptive statistics, which included frequencies and percentages using Statistical Package for Social Sciences (SPSS) which is a reliable tool for quantitative data analysis. For qualitative data, the researcher used content analysis. Content analysis involves, “analyzing text with respect to its content, with the factors of interest most often relating to meaning, or how many times particular phrases/terms appear” Page and Meyer (2003). The constructs and major themes were transferred to an excel spreadsheet under the heading of each research questions. A table of constructs from all the interviews was then prepared and the categories under each research question ranked in order of frequency and importance.

In order to establish the relative importance of the factors identified as influencing completion of projects the researcher conducted inferential analysis which included coefficient of determination and a multiple regression analysis. The regression equation ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ ):

Whereby  $Y$  = Timely completion of infrastructure projects

$X_1$  = Bureaucracy

$X_2$  = Disbursement procedures

$X_3$  = Procurement procedures

$X_4$  = Funding arrangements

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  = Coefficients of determination

$\epsilon$  = Error term

The study found the use of coefficient of determination and a multiple regression analysis was the most suitable statistical method, because it tested the variables subjected – which

influence the delay in timely completion of infrastructure projects and the extent to of the influence.

### **3.10 Ethical Considerations**

According to Homan (2002) the five principles guiding ethics in research are scientific merit, equitable selection of subjects, seeking informed consent, confidentiality and avoidance of coercion. The researcher treated the information gathered as strictly confidential information and only used it for academic purposes. In addition, the information given did not disclose the respondents. Those respondents who are not willing to fill in the questionnaires were not forced.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents data that was analyzed in order to give a clear picture of the findings. The aim of this study was to examine the influence of institutional factors on completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya. The material was summarized in table form to bring out the significant features. The data was collected in its raw form and required intensive analysis in order to classify it into meaningful categories. Proper analysis assisted in making comparisons of the different reactions from the responses which guided in the formulation of the conclusion and recommendations. The data was gathered from questionnaires as the research instrument. The questionnaire was designed in line with the objectives of the study.

#### 4.2 Questionnaire Return Rate

The study sampled 40 respondents from the target population in collecting data with regard to the influence of institutional factors on timely completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya. The questionnaire return rate results are shown in Table 4.1.

**Table 4.4: Response Rate**

Response	Frequency	Percentage
Responded	32	80
Not responded	8	20
<b>Total</b>	<b>40</b>	<b>100</b>

From the study, 32 out of 40 target respondents filled in and returned the questionnaire contributing to 80%. This commendable response rate was made a reality after the researcher made personal calls and visits to remind the respondent to fill-in and return the questionnaires as well as explaining the importance of their participation in this study. This

commendable response rate can be attributed to the data collection procedure, where the researcher personally administered questionnaires and waited for respondents to fill in, kept reminding the respondents to fill in the questionnaires through frequent phone calls and picked the questionnaires once fully filled. This response rate was good and representative and conforms to Mugenda and Mugenda (1999) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. The questionnaires that were not returned were due to reasons like, the respondents were not available to fill them in at that time and with persistence follow-ups there were no positive responses from them. The response rate demonstrates a willingness of the respondents to participate in the study.

#### **4.3 Characteristics of the Study Respondents**

The study targeted World Bank Staff, Implementing Agencies and Ministry of Roads staff. As such the results on demographic characteristics of these respondents were investigated in the first section of the questionnaire. Socio demographic characteristics of the respondents such as age, gender, educational level, type of organization occupational level, and the number of years of worked on project were important variables in this study. These variables indicate the proportions of the respondents who were interested in this study.

The level of employee performance may vary with the age of the respondents. In order to avoid biasness, this study had to investigate the composition of the respondents in terms of age brackets to understand their familiarity with institutional factors in the road infrastructure sector setting. The study thus posed a question requesting the respondents to indicate their age brackets. Table 4.2 shows the results of the findings on the age brackets of the respondents.

**Table 4.5: Age Brackets of the Respondents**

Age Bracket	Frequency	Percentage
Below 25 years	0	0
25 – 35 years	15	46.9
36 years and above	17	53.1
<b>Total</b>	<b>32</b>	<b>100</b>

From the study, 53.1% of the respondents were aged 36 years and above while 46.9% of them indicated that they were aged between 25 – 35 years. It was clear that none of the respondents was aged below 25 years of age. The study findings show that the respondents were well distributed in terms of age and that they are active in technological advancements and productivity and hence can contribute constructively in the implementation of infrastructure projects.

The research sought to find out the gender of the respondents. In this study the respondents sampled were expected to comprise both male and female stakeholders. As such, the study required the respondents to indicate their gender by ticking on the spaces provided in the questionnaire. Table 4.3 shows the distribution of the respondents by gender.

**Table 4.3: Gender of the Respondents**

Gender	Frequency	Percent
Male	20	62.5
Female	12	37.5
<b>Total</b>	<b>32</b>	<b>100.0</b>

From the study, 62.5% of the youth members comprised of males while 37.5% of them were females. The findings show that the institutions studied had both male and female members. The findings imply that the views expressed in these findings are gender sensitive and can be taken as representative of the opinions of both genders as regards to the influence of institutional factors on completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya.

The study sought to investigate the education level achieved by the respondents. The difference in the level of education might contribute to differences in the responses given by the respondents. The responses on this question are depicted in table 4.4.

**Table 4.4: Level of Education**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percent</b>
O-Level	0	0
Diploma	11	34.4
Graduate	14	43.8
Post Graduate	7	21.8
<b>Total</b>	<b>32</b>	<b>100.0</b>

The study results reveal that 43.8% of the respondents had acquired a Bachelor's or undergraduate degrees level of education, 34.4% of the respondents indicated that they had acquired college diplomas, while 21.8% had acquired post graduate level of education as their highest level of education. These results imply that majority of the respondents had at least an undergraduate degree and hence understood the information sought by this study. The findings further imply that all the respondents were academically qualified and also familiar with their duties and could dispense them effectively in terms of professional work ability and performance.

The study involved stakeholders in World Bank, Implementing Agencies and Ministry of Roads to examine the influence of institutional factors on timely completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya. As such the study sought to establish the distribution of the respondents in these categories. The results of this question are depicted in table 4.5.

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**Table 4.5: Distribution of Respondents by Positions held in the Organization**

<b>Position</b>	<b>Frequency</b>	<b>Percentage</b>
Task Team Leader	4	12.5
Procurement Specialist	10	31.3
Financial Management Specialist	3	9.4
Social Specialist	3	9.4
Consultant	4	12.5
Administrative Staff	76	18.7
Other	2	6.2
<b>Total</b>	<b>32</b>	<b>100</b>

According to the study results, 31.3% of the respondents comprised of procurement specialist, 18.7% of them indicated that they were administrative staffs, 12.5% of them were consultants, another 12.5% of the respondents were task team leaders, 9.4% were social specialists, as well as another 9.4% of those who were financial management specialists, while 6.2% of them were other stakeholders. The results further imply that the various stakeholders had significant information sought by the study which is essential in coming up with recommendations on influence of institutional factors on completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya since the results depict the opinions of the involved stakeholders from the various designations involved.

The length of service/working in an organization determines the extent to which one is aware of the issues sought by the study. In the wake of technological advancements and globalization, there are likely to be many changes in institutional and operating environment that the respondents should know when responding to the issues sought by the study. The study therefore sought to establish the length of time that the respondents had been working in the organizations. The results on this question are presented in Table 4.6.

**Table 4.6: Length of Time Worked in the Organizations**

<b>Duration in Years</b>	<b>Frequency</b>	<b>Percentage</b>
1 to 4	13	40.6
4 to 7	8	25.0
7 to 10	7	21.9
More than 10	4	12.5
<b>Total</b>	<b>32</b>	<b>100</b>

The study results depicted in table 4.6 reveal that 40.6% of the respondents indicated that they had an experience of 1 - 4 years in the organizations, 25.0% of them had worked in the organizations for a period of 4 - 7 years, 21.9% of them had a working experience of 7-10 years, while 12.5% of the respondents indicated that they had an experience of more than 10 years in the organizations. This shows that majority respondents had enough work experience in the organizations to respond effectively. Most of the respondents had worked in the target departments for long period hence they understood the institutional factors affecting completion of infrastructure projects.

#### **4.4 Key Institutional Factors Influencing Delays in Completion of Projects**

The aim of this study was to investigate the institutional factors that influence delay in timely completion of projects in the road sub-sector in Kenya. As such the respondents were required to indicate the key institutional factors that contribute to the delay in timely completion of projects in the road sub-sector in Kenya. From the study majority of the respondents indicated that inadequate specifications at the bid documentation stage resulting in disputes and revisions mid-stream during execution of the works, poor/inadequate assessment of bidders leading to award of incompetent/overloaded/inexperienced/uncommitted-litigious contractor, poor or inadequate superintendence of contracts leading to lack of guidance to the contractor and poor work that has to be condemned/repeated contribute to the delay in timely completion of projects in the road sub-sector in Kenya. Other respondents indicated that unplanned



occurrences such as El Nino and civil strife lead to longer execution time of the projects, excessive interference by the employer specifically where instructions are issued outside the provisions of the contract, political influence, lack of ownership rights due to communities relocations and lack of enough sensitization on an upcoming road infrastructure in the concerned areas also lead to delays in completion of road construction projects.

The study also established that slow procurement, weak financial management, delays in flow of funds, over-commitment of staffs in project units, withdrawal application delays in the World Bank, weak coordination between the Government of Kenya agencies and slow government clearance for tax exemptions and subsidiary agreements challenge the timely completion of road construction projects in Kenya. Others include long procurement procedures, lack of contract management skills by government staffs, donor conditionality, level of thresholds requiring prior approvals, poor communication, high staff turnover and lack of materials also affect the completion of projects.

#### **4.5 Extent to Which Various Factors influence timely completion of Road Construction Projects**

The study further sought to establish the extent to which various factors cited influence delays in road construction projects. A scale of 1 to 5 was provided such that 5= Very high, 4 = High, 3 = Medium, 2 = Low and 1 = Very Low. The results are depicted in table 4.7.

**Table 4.7: Extent to which various Factors Influence Timely Completion of Construction Projects**

<b>Factors Influencing Delays in Road Construction</b>	<b>Mean</b>	<b>Std. Dev.</b>
Inadequate specifications at the bid documentation stage	3.7273	1.2955
Poor/inadequate assessment of bidders	4.3939	0.92618
Poor or inadequate superintendence of contracts	3.5152	1.19283
Unplanned occurrences such as El Nino and civil strife	3.3939	1.16195
Excessive interference by the employer	3.0303	1.2275
Lack of ownership rights due to communities relocations	4.0303	1.20217
Lack of enough sensitization on an upcoming road infrastructure	4.2121	1.0155
Weak financial management	3.303	1.45676
Slow procurement	3.5455	1.36079
Delays in flow of fund	3.9697	1.20217
Over-commitment of staffs in project units	4.0000	1.1897
Weak coordination between the Government of Kenya agencies	3.3939	1.28756
Long procurement procedures	2.6061	1.26344
Lack of contract management skills by government staffs	4.0000	1.08131
Poor communication	4.303	0.80326
High staff turnover	3.9394	0.89234
Lack of materials	3.3939	1.28756
Political influence	3.7576	1.2411
Other factors	3.3939	1.28756

Majority of the respondents reiterated that poor/inadequate assessment of bidders highly influences delays in road construction projects as shown by a mean score of 4.3939 as well as poor communication as shown by a mean score of 4.303, lack of enough sensitization on an upcoming road infrastructure as shown by a mean score of 4.2121, lack of ownership rights due to communities relocations as shown by a mean score of 4.0303, over-commitment of staffs in project units as shown by a mean score of 4.0000, lack of contract management skills by government staffs as shown by a mean score of 4.0000, delays in flow of fund as shown by a mean score of 3.9697, high staff turnover as shown by a mean score of 3.9394 and political influence as shown by a mean score of 3.7576. Other factors that highly influence delays in road construction projects include inadequate specifications

at the bid documentation stage, slow procurement and poor or inadequate superintendence of contracts as shown by mean scores of 3.7273, 3.5455 and 3.5152 respectively. The respondents further cited that unplanned occurrences such as El Nino and civil strife, weak coordination between the Government of Kenya agencies, lack of materials, weak financial management, excessive interference by the employer and long procurement procedures influence delays in road construction projects to moderate extents as shown by mean scores of 3.3939, 3.3939, 3.3939, 3.303, 3.0303 and 2.6061 respectively. Other factors like too many project objectives, compensation issues, government mechanisms in settling disputes and capacity issues at the bank affect the completion of road construction projects to a medium extent as shown by a mean score of 3.3939.

The respondents were required to explain why they consider various institutional factors as key in contributing to delays in timely completion of road construction projects in Kenya. Once projects decision is made on the particular road project the success depended on the level of preparedness, the specific tasks to be undertaken and the specifications and the players all who have to synchronize their roles. If any combination of these is not optimal then delays are likely. The respondents recalled that political influence renders technical solutions and decisions ineffective and as a result it compromises the accountability of the parties to the contract. It was also clear from the respondents' opinions that inadequate designs have results into additional works and variation orders which extends the construction periods. Variations orders have been a source of corruption practices in the roads construction, low bids contribute significantly to delays because the winning bidders spend a lot of time on cooking complaints instead of working, ordinarily contractors plan against known occurrences that include rainfall seasons, public holidays and other festive seasons; where unplanned events occur then the contractor has to factor them in the

programs which may result in delays in the completion of projects. In general, projects failure costs more due to weaknesses in contract incompetence among the staffs involved.

#### 4.6 Institutional Factors Contributing to Delays in Timely Completion of Projects

The respondents were further required to indicate their opinion on how they would rank the significance of the institutional factors provided on a scale of 1 – 5 in contributing to delays in timely completion of road construction projects in Kenya.

**Table 4.8: Ranking the Institutional Factors**

<b>Institutional Factors</b>	<b>Mean</b>	<b>Std. Dev.</b>
Procurement Procedures in the government	3.8252	0.707
Low capacity of the project implementing teams	3.3212	1.045
Staff turnover due to transfers	3.4543	1.087
Number of administrative procedures at the Ministry	2.6934	1.079
Late release of counterpart funding	2.6631	1.169
Other development partners conditionality in the case of pool funding	3.3036	1.11060
Slow decision making at the Ministry and the agencies	3.1429	1.10254
Slow processing of tax exemption applications	3.3036	1.18965
Delayed roll-out of IFMIS	3.9643	.76192
Lack of standard computerized accounting and procurement	3.4643	.91382
Absences of procurement plans	3.5489	1.17722
Institutional and capacity weaknesses at Ministry of Finance	3.2500	.67566
Poor procurement documentation	3.7744	1.13228

Accordingly, majority of the respondents rated that delayed roll-out of IFMIS is highly significance in contributing to delays in timely completion of road construction projects in Kenya as shown by a mean score of 3.9643 as well as procurement procedures in the government as shown by a mean score of 3.8252, poor procurement documentation as shown by a mean score of 3.7744 and absences of procurement plans as shown by a mean score of 3.5489, while they rated the significance of lack of standard computerized accounting and procurement, staff turnover due to transfers, low capacity of the project implementing teams, other development partners conditionality in the case of pool funding, slow processing of tax exemption applications, institutional and capacity weaknesses at Ministry

of Finance, slow decision making at the Ministry and the agencies, number of administrative procedures at the Ministry and late release of counterpart funding in contributing to delays in timely completion of road construction projects to be medium as shown by mean scores of 3.4643, 3.4543, 3.3212, 3.3036, 3.3036, 3.2500, 3.1429, 2.6934 and 2.6631.

#### **4.7 Inferential Analysis**

Inferential analysis is utilized in this study to determine if there is a relationship between an intervention and an outcome, as well as the strength of that relationship. The inferential statistics analysis aimed to reach conclusions that extend beyond the immediate data alone between the independent variables in this study. The study conducted inferential analysis to establish the relationship between the independent variables and the dependent variable of which involved a coefficient of determination and a multiple regression analysis. The independent variables in this study included bureaucracy, disbursement procedures, procurement procedures and pool funding arrangements, while the dependent variable was timely completion of projects.

##### **4.7.1 Coefficient of Determination**

The coefficient of determination is a measure of how well a statistical model is likely to predict future outcomes. The coefficient of determination,  $r^2$  is the square of the sample correlation coefficient between outcomes and predicted values. As such it explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (completion of construction projects) that is explained by all the four independent variables (bureaucracy, disbursement procedures, procurement procedures and pool funding arrangements).

**Table 4.9: Coefficient of Determination**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.792 (a)	.627	.303	.125

**Predictors:** (Constant), bureaucracy, disbursement procedures, procurement procedures and pool funding arrangements.

The four independent variables that were studied, explain only 62.7% of the completion of projects as represented by the  $R^2$ . This therefore means the four independent variables only contribute about 62.7% to the completion of projects while other factors not studied in this research contribute 37.3% of the completion of projects. Therefore, further research should be conducted to investigate the other factors (37.3%) that influence project completion.

#### 4.7.2 Multiple Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to determine the influence of institutional factors on completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya. Multiple regression is a statistical technique that allows us to predict a score of one variable on the basis of their scores on several other variables. The main purpose of multiple regressions is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable.

**Table 4.10: Multiple Regression Analysis**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.224	.312		4.358	0.000
Bureaucracy	0.217	0.1440	0.185	.776	0.0387
Disbursement procedures	0.272	0.1264	0.089	.849	0.038
Procurement procedures	0.299	0.0715	0.235	2.7936	0.044
Funding arrangements	0.118	0.0847	0.023	0.4069	0.046

Independent Variable: Delayed completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya. The researcher conducted a multiple regression

analysis so as to determine the relationship between timely completion of infrastructure projects financed by the World Bank in the road sub-sector in Kenya and the four independent variables.

The regression equation ( $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ ) now becomes:

$$Y = 1.224 + 0.2176 X_1 + 0.1187 X_2 + 0.2994 X_3 + 0.2725 X_4$$

Whereby Y = Timely Completion of infrastructure projects

X1 = Bureaucracy

X2 = Disbursement procedures

X3 = Procurement procedures

X4 = Funding arrangements

According to the regression equation established, taking all factors (bureaucracy, disbursement procedures, procurement procedures and pool funding arrangements) constant at zero, the completion of road construction projects realized would be 1.224. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in bureaucracy lead to a 0.217 increase in completion of construction projects. A unit increase in disbursement procedures will lead to a 0.272 increase in completion of road construction projects; a unit increase in procurement procedures will lead to a 0.299 increase in completion of construction projects, whereas a unit increase in funding arrangements will lead to a 0.118 increase in completion of road construction projects. These results infer that increased procurement procedures contributes more to completion of road construction projects, followed by disbursement procedures and bureaucracy, while funding arrangements contributes the least to completion of construction projects.

**CHAPTER FIVE**  
**SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND**  
**RECOMMENDATIONS**

**5.1 Introduction**

This is the final chapter in this study which gives the summary of the findings, the conclusions and recommendations of the study based on the objective of the study. It comes after identifying the background, problem at hand and the objectives in chapter one, literature review was done in chapter two, chapter three set out the methodology that the study used to collect data and chapter four analyzed the data obtained from the study. The chapter finally presents the suggestions for further studies. The study set out to establish the key institutional factors and the extent to which these identified factors influenced timely completion of infrastructure project in the road sub-sector in Kenya.

**5.2 Summary of Findings**

According to the above illustrated findings and discussions, institutional factors influence timely completion of road construction projects in Kenya. Most of these factors included lengthy and complex procurement procedures, poor financial management procedures, steps involved in funds disbursements, staff turnover, number of administrative procedures, time taken in processing withdrawal applications amongst others. The success of construction projects depends on the level of preparedness, the specific tasks to be undertaken and the specifications and the players all who have to synchronize their roles.

**5.2.1 Bureaucracy**

From the study, bureaucracy is experienced both in the World Bank and government agencies, and this was cited as a factor contributing to delays in completion of road construction projects in Kenya. This was mainly in the processes that had to be followed and executed for various functions related to the projects. Bureaucracy was mainly at the decision making, where documents had to be reviewed by different people without adding



value to the process, the number of clearances and approvals required on the Bank side amongst many. The implementing agencies and parastatals on the other hand were not empowered to take decisions and documentation had to go through the line Ministry namely Ministry of Roads and then to Ministry of Finance before approval and onward transmission to the Bank. This was considered to be bureaucratic and unfortunately always led to tremendous delays in the processes which contributed to delayed projects.

### **5.2.2 Procurement Procedures**

The study found that that inadequate specifications at the bid documentation stage resulting in disputes and revisions mid-stream during execution of the works, poor or inadequate superintendence of contracts leading to lack of guidance to the contractor and poor work that has to be condemned/repeated and poor/inadequate assessment of bidders leading to award of incompetent/overloaded/inexperienced/uncommitted-litigious contractor, unplanned occurrences such as El Nino and civil strife lead to longer execution time of the projects, excessive interference by the employer specifically where instructions are issued outside the provisions of the contract, political influence, lack of ownership rights due to communities relocations and lack of enough sensitization on an upcoming road infrastructure in the concerned areas, slow procurement, poor procurement documentation and absences of procurement plans, weak financial management, delays in flow of funds, over-commitment of staffs in project units, withdrawal application delays in the World Bank, weak coordination between the Government of Kenya agencies and slow government clearance for tax exemptions and subsidiary agreements, long procurement procedures, lack of contract management skills by government staffs, donor conditionality, level of thresholds requiring prior approvals, poor communication, high staff turnover and lack of materials contribute to the delay in timely completion of projects in the road sub-

sector in Kenya. All these factors were related to procurement and were acknowledged as major contributors to delays in the construction industry.

The study further established that political influence renders technical solutions and decisions ineffective and as a result it compromises the accountability of the parties to the contract. Inadequate designs have results into additional works and variation orders which extends the construction periods. Variations orders have been a source of corruption practices in the roads construction, low bids contribute significantly to delays because the winning bidders spend a lot of time on cooking complaints instead of working, ordinarily contractors plan against known occurrences that include rainfall seasons, public holidays and other festive seasons; where unplanned events occur then the contractor has to factor them in the programs which may result in delays in the completion of projects.

Another issue highlighted was the challenge that project teams faced in procurement guidelines. Projects use both the World Bank and the Government of Kenya procurement guidelines. Fulfilling both can be a long and tedious process. However, the major challenge arises in cases where there are differences in the guidelines in respect to a matter. For fear of appearing to have misprocured, the project teams take it upon themselves to ensure they fulfill the different requirements of both the guidelines. This is despite a clear mandate given that in such cases the donor agency guidelines take precedent. Project teams go to this length for fear of being interdicted by bodies like the anti-corruption and fear of being portrayed as having mis-procured. Such situations have continued to impact the project negatively in times of time overrun leading to eventually delays in project completion.

### 5.2.3 Disbursement Procedures

Disbursement was also a factor that contributed to delays. There are substantial delays upto about three months at Treasury level to transfer funds to Special Accounts and then to Project Accounts. Processing of withdrawal applications by the implementing Agencies, Ministry of Roads and Treasury for payments made directly to contractors takes an average of six weeks. Unfortunately, implementing agencies transit their withdrawal applications through the parent Ministry causing delays without any added value apart from capturing expenses. These require another review, payment authorization, internal audit and eventually the permanent secretary's approval before being submitted to the Ministry of Finance for payment. On the other hand processing of the Withdrawal applications by the Bank has been perceived by the implementing agencies as another bottleneck. There are standard document processing days, but the implementing agencies felt that this was not adhered to.

Another factor was that some implementing agencies did not submit their audit reports in good time as per the laid down World Bank financial management guidelines. This unfortunately was connected to disbursements and is a requirement before disbursements are made. Some of the reports submitted had ineligible expenses and other issues that need the implementing agency and the ministry to deal with before they got clearance from the Bank. This had an effect on disbursement. There was also a problem with funds flow communication between the Bank, Ministry of Roads and implementing agencies. When funds are released from the Bank they go through the Ministry before reaching the project accounts. Unfortunately most of the times there is no adequate information/communication on exactly where the funds are lying. The implementing agencies are greatly affected by this none communication because they are not able to carry out the project activities like paying the contractors in good time. This also affects project completion. Another major

factor affecting disbursements of project funds is the delay caused by information not being delivered on time about firms which are debarred, suspended, declared suspicious and under investigation. This information was provided very late during the review of contract documents by the Bank. By the time the documentation is at the review stage that is a very advanced stage which takes the project teams very long to get to this stage. If the firm faces the any of the above-mentioned issues, then it means the projects have to go back to the drawing board, which is a major set-back.

#### **5.2.4 Pool Funding Arrangements**

Pool funding arrangements between the Government, implementing agencies and development partners has also been established in this study as a factor contributing to delayed completion of projects. The delays under pooled funding are many which include multiple requirements by the project financiers jointly financing a project. A major area of concern was the multiple conditionalities and reporting requirements. Some development partners had stringent conditionalities which were difficult to fulfill and took the teams too long to meet therefore leading to delayed commencement of projects and eventually impacted on the planned completion dates. In cases where each donor financed a component, a delay on the part of one donor caused a delay in the successor components eventually leading to project delays. Also another issue was the multiple reporting that was time consuming and tedious. Another factor was the difference in the approval requirements by development partners. Lack of harmonization amongst development partners co-financing a project is a major factor. The study also found that delay in counterpart funding was also an issue. Mostly this is a donor conditionality in the financing agreement, and tends to hold the project from progressing.

The study also ascertained other factors which included delayed roll-out of IFMIS, staff turnover due to transfers, low capacity of the project implementing teams, institutional and capacity weaknesses at Ministry of Finance, slow decision making at the Ministry and the agencies, number of administrative procedures at the Ministry and late release of counterpart funding in influencing timely completion of road construction projects to be medium.

The inferential analysis conducted shows that the four independent variables that were studied, explain only 62.7% of the completion of projects as represented by the R<sup>2</sup>. According to the regression equation established, taking all factors (bureaucracy, disbursement procedures, procurement procedures and pool funding arrangements) constant at zero, the completion of road construction projects realized would be 1.224. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in bureaucracy lead to a 0.217 increase in completion of construction projects. A unit increase in disbursement procedures will lead to a 0.118 increase in completion of road construction projects; a unit increase in procurement procedures will lead to a 0.299 increase in completion of construction projects, whereas a unit increase in funding arrangements will lead to a 0.272 increase in completion of road construction projects.

### **5.3 Conclusions**

The research identified the key institutional factors influencing timely completion of infrastructure projects in the road sub-sector funded by the World Bank. The study concludes that the construction stage cannot on its own, be the only determining stage to projects being delivered on time. It is important to note that: client briefing and quality of design have an impact on the speed of construction; and client commitment to the project success has an impact on the construction stage of a project. The contributions of the client towards the project success are in terms of commitment to an appropriate procurement

system, such as the pre-qualification of contractors / sub-contractor / supplier i.e. sourcing for TQM contractors.

From the findings, the study established that procurement procedures in the government, poor procurement documentation and absences of procurement plans are highly significance in contributing to delays in timely completion of road construction projects in Kenya. Further, lack of motivation of workers negatively influences productivity and has a resultant effect on project delivery time; economic aspects such as interest rates, inflation, materials and plant availability negatively affect construction project delivery time; the quality of management during construction such as the level of supervision, activity sequencing and ineffective coordination of resources negatively affects completion time of projects; site access conditions in term of congestion negatively affect projects delivery time; site ground conditions such as a high water table and underground discovery negatively affect construction speed, in turn affecting delivery time; lack of constructability review of designs negatively affects project delivery time. Other aspects include socio-political conditions such as strikes and riots negatively affect project delivery time; the quality of management during design has a great influence on construction processes and project delivery time, and physical environmental conditions such as rainfall, high and low temperatures negatively affect delivery time of projects.

The study deduces that the management style employed in the delivery of the project does significantly influence project delivery time. The following factors are good indicators of the effect of management style on project delivery: setting time lines; specifying specific goals people are to achieve, and providing specific direction. The economic policies do significantly influence project delivery time. The factors that strongly support this this statement are: insolvencies and bankruptcy of either the client or the contractor; a lack of

materials and equipment; trade / operative availability; supervision / management of staff availability, and the indirect impact of interest rates / inflation.

#### **5.4 Recommendations**

From the findings and conclusions, for a project to be successful there must be an improved appreciation of the role of project management within projects, and this role must be placed within the context of a wider project alongside other outside criteria and long-term expectations.

The study also recommends that integrating technology into project management process could be one of the best ways that contribute to project success. When team members see their test results and work progress immediately, they are more likely to be interested and motivated towards the outcome.

There should be stringent monitoring and evaluation at all stages of project implementation including concept and design stages, thorough project feasibility studies, formulation of policies to minimize political interference in the project life cycle, monitoring of procurement process, adequate and proper design of projects, proper specialization of duties, tasks and responsibilities, transparency and accountability of workers, proper financial planning and capacity building for staff.

This study further makes the following recommendations that will enhance timely completion of road construction projects in Kenya.

- i. World Bank and government to streamline procurement procedures,
- ii. Ensure government counterpart funds are available upfront,
- iii. Adopt contract watch mechanisms to ensure satisfactory completion of contracts. Contract management should be done from the time of drawing of contracts, signing and to the execution of the contract.

- iv. Projects coordinators to be empowered to make take decisions as they are the key project implementers,
- v. Hold frequent procurement, financial management and disbursement clinics for project teams to build capacity. This should be specific and targeted.
- vi. The Bank teams to work closely with the implementing agencies for clarity on the procurement documentation requirements with the aim of reducing the back and forth communication which causes delays.
- vii. The government to reduce the number of reviews required for documentation before approval especially where there is no value add. Electronic systems can be introduced capture information and made available to anyone interested in viewing the status of documentation without physically having the documentation.
- viii. Project staff should be contracted and tied to the project for the duration of the project. In addition the staff should be given incentives to stay to motivate them to stay on for the life of the project. This should minimize the high turnover.
- ix. Development partners to harmonize their approval and reporting requirements at the inception of the projects to avoid complexities during the implementation of the project.

### **5.5 Suggestions for Further Research**

This study gave attention to the key institutional factors that influence timely completion of infrastructure projects in the road sub-sector funded by the World Bank. The study could not exhaustively cover all these factors and therefore there is need for more research in this area.



The study recommends the inclusion of additional players in the sector namely, the government officials in the ministries of finance and transport as these were not reached due to time constraints as well as limited resources.

The study also recommends research in the involvement of the private sector in financing infrastructure projects through public private partnerships.

## REFERENCES

- Africa Development Bank Report, (2007). Nairobi Thika Highway Improvement Project, Project Evaluation Report
- African Development Bank (2005) Champasack Road, Improvement Project, b (Loan 1369-LAO[SF]) in the Lao People's, Democratic Republic, Operations Evaluation Department
- African Development Bank, (2003). Project Completion Report of the Rwanda Infrastructure Project
- African Development Bank, (2005). Performance Evaluation Report, Nairobi.
- African Development Bank, (2009). The Health Rural Project in Republic of Kenya, Project Appraisal Document
- Ahmed S, Azher S, Castillo M, Kappagantula, P. (2002) Construction Delays in Florida; An Empirical Study, Florida.
- Alinaitwe, H. M. (2008). Improvement of Labor Performance and Productivity in Uganda's Building Industry. PhD Thesis, Lund University, Sweden
- Assaf SA, Al-Hejji S. (2006). Causes of delay in large construction projects. *International Journal of Project Management*. 24(4):349–57.
- Assaf, S.A., Al-Khalil, M. and A-Hazmi, M. (1995). Causes of Delay in Large Building Construction Projects
- AU/NEPAD (2009). African Action Plan: Advancing Regional and Continental Integration in Africa
- Bartholomew, A. and Lister, S. (2002). OECD-DAC Studies on Donor Practices Vietnam Case Study: Managing Aid in Vietnam, International Development Department University of Birmingham Working Paper, Birmingham
- Bhattacharyay, B. N. (2008). Infrastructure Development for ASEAN Economic Integration. ADBI Working Paper 138. Tokyo: Asian Development Bank Institute.

- Bolton, P., and Dewatripont, M., (2005). *Contract Theory*, MIT Press Bolton and Dewatripont (2005).
- Chan, D.M.W. and Kumaraswamy, M.M. (1996). A Comparative Study of Causes of Time Overruns in Hongkong Construction Projects. *International Journal of Project Management*, Elsevier. Vol. 15 (1): pp 55-63
- DFID (2005). A platform approach to improving public financial management, London, Department for International Development.
- DFID, (2002). *Making the Connections: Infrastructure for Poverty Reduction*, London
- Faridi, A.S. and S.M. EL-Sayegh, (2006). Significant Factors Causing Delay in the UAE Construction Industry. *Construction Management and Economics*. 24: pp 1167-1176.
- Frimpong, Y., Oluwoye, J. and Crawford, L. (2003). Causes of Delay and Cost Overruns in Construction of Groundwater Projects in a Developing Countries: Ghana as a Case Study. *International Journal of Project Management* 21: pp 321-6.
- Goldratt, Eliyahu M.. (1984). *Essays on the Theory of Constraints*. [Great Barrington, MA]: North River Press. ISBN 0-88427-159-5.
- Government of Kenya, (2007). *Kenya Joint Assistance Strategy, 2007-2012: Improving Aid Effectiveness*.
- Homan, R. (2002). *The ethics of social research*. London: Longman House.
- Kessides, C., (1993). *The Contributions of Infrastructure to Economic Development: A Review of Experience and Policy Implications*. World Bank Discussion Paper 213. Washington: World Bank.
- Kessides, C., (1993). *The Contributions of Infrastructure to Economic Development: A Review of Experience and Policy Implications*. *World Bank Discussion Paper* 213. Washington: World Bank.
- Kothari, C.R. (2004). *Research Methodology, Methods and Techniques*. New Age International (P) Limited Publishers, New Delhi, India.

- Long, N.D., Ogunlana, S., Quang T. and Lam, C.K. (2004). Large Construction Projects in Developing Countries: a Case Study from Vietnam, *International Journal of Project Management*, 22, 553-561.
- Mugenda, O. & Mugenda A. (2003). Research Methods Quantitative and Qualitative Approaches. Nairobi acts Press.
- Ndulu, B. (2006) Infrastructure, Regional Integration and Growth in Sub-Saharan Africa: Dealing with the Disadvantages of Geography and Sovereign Fragmentation *Journal of African Economies*, Vol 15, AERC Supplement 2, pp 212-244
- Nick A. (2002), OECD-DAC Studies on Donor Practices Bolivia Case Study, International Development Department University of Birmingham Working Paper, Birmingham
- Odeh, A. M. and Battaineh, H.T. (2002) Causes of Construction Delay: Traditional Contracts. *International Journal of Project management*, Elsevier. 20: pp 67-73.
- Ogunlana, S.O., Promkuntong, K. and Jearkjirm, V. (1996). Construction Delays in a Fast-Growing Economy: Comparing Thailand with Other Economies.
- Ronsholt, F. (2002), OECD-DAC Studies on Donor Practices Tanzania Case Study, International Development Department University of Birmingham Working Paper, Birmingham
- Sambasivan M. and Yau W.S., (2007). Causes and effects of delays in Malaysian construction industry. *International Journal of Project Management* 25: pp. 517 - 526.
- Sambasivan, M. and Soon, Y.W. (2007). Causes and Effects of Delays in Malaysian Construction Industry, *International Journal of Project Management*, 25(5) (2007) pp 517-526.
- Shi, J. J., Cheung, S.O. and Arditi, D. (2001). Construction Delays Computation Method. *Journal of Construction Engineering and Management*, ASCE. January/February, pp 60-65.

- Ssepunya, G., (2008). Improvement of Labor Performance and Productivity in Uganda's Building Industry. PhD Thesis, Lund University, Sweden
- Sweis, G., Sweis, R., Hammad, A.A. and Shboul, A. (2008). Delays in construction projects: The case of Jordan. *International Journal of Project Management* 26(6): pp. 665-674.
- Thornton, G. (2007). Surety Credit Survey for Construction Contractors: The Bond Producer's Perspective. Retrieved from <http://www.grantthornton.com/staticfiles>
- Toor, S. and Ogunlana, S.O. (2008). Problems causing delays in major construction projects in Thailand. *Construction Management and Economics* 26: pp. 395-408.
- Wiguna, I.P.A. and Scott, S. (2005). Analyzing the Risks Affecting Construction Delay and Cost Overruns in Indonesia Building Projects. *Innovation in Architecture, Engineering and Construction*, Rotterdam. pp 841-849.
- Willoughby, C. (2004), Infrastructure and the MDGs, Sponsored by DfID.
- World Bank (1994). World Development Report. New York: Oxford University Press
- World Bank (2004). Project Appraisal Document of the Northern Corridor Transport and Improvement Project Additional Financing.
- World Bank (2005). Implementation Completion and Results Report of the Mombasa Nairobi Rehabilitation Project.
- World Bank (2005). Implementation Completion and Results Report of the Kenya Urban Transport Improvement Project.
- World Bank (2008), Indian Road Construction Industry: Capacity Issues, Constraints and Recommendations. Washington D.C.
- World Bank (2011). Project Appraisal Document of Kenya Transport Sector Support Project.
- World Bank, (2007). Maintaining and Rehabilitating the Road Network for Growth, Washington: World Bank.

World Bank, (2008). Indian Road Construction Industry: Capacity Issues, Constraints and Recommendations

World Bank, (2009). Project Information Document for the Mexico Urban Transport Project.

Zagorsky, J.L. (2007). Do you have to be smart to be rich? The impact of IQ on wealth, income and financial distress. *Intelligence* 35(5): pp. 489-501.

## APPENDICES

### Appendix I: Letter of Introduction

Date:

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

#### REQUEST FOR COLLECTION OF DATA

I Rosemary Ngesa Abuli, is a post-graduate student at the School of Distance and Continuing Education, University of Nairobi. As part of the requirement for the Master Degree Award I am required to conduct a research study which is relevant to the course under study. Therefore, I have chosen to conduct a study titled "*The Influence of Institutional Factors on completion of Infrastructure Projects: A Case of World Bank Financed Projects in the Road Sub-Sector in Kenya.*"

You have been selected to form part of this study. Kindly assist by filling in the attached questionnaire. The information given will be treated in strict confidence and will be purely used for academic purposes. Do not indicate your name or details on the questionnaire. Once you have completed the questionnaire, please return it to me by return email [rotieno@worldbank.org](mailto:rotieno@worldbank.org). If you have any questions, please feel free to contact me on cell phone number 0721 769051.

A copy of the final report will be availed upon request.

Your assistance and cooperation will be highly appreciated.

Yours Sincerely,



Rosemary Ngesa Abuli  
(Student) L50/66112/2010

**Appendix II: Questionnaire**

**SECTION A**

**GENERAL INFORMATION – WORLD BANK STAFF**

a) Age:           Below 25 years    25 – 35 years    36 years and above

b) Gender:       Male        Female

c) Education:   O-Level    Diploma    Graduate    Post Graduate

Others (specify).....

d) State Respondent position in the organization:

Task Team Leader

Procurement Specialist

Financial Management Specialist

Social Specialist

Consultant

Administrative Staff

Other (Specify) .....

f) State the number of years you have worked on the project.

1-4      4-7      7-10      More than 10



**SECTION B – WORLD BANK STAFF**

**KEY INSTITUTIONAL FACTORS THAT INFLUENCE DELAYS IN TIMELY COMPLETION OF ROAD CONSTRUCTION PROJECTS IN KENYA**

1. In your view, what are the factors that contribute to the delay in timely completion of projects in the road sub-sector in Kenya?

No.	Factors
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

2. To what **extent** do the factors above influence delays in road construction projects?

**Please list them in the table below and tick (✓) the appropriate box for the significance**

**Each scale represents the following rating:**

(5) = Very high      (4) = High      (3) = Medium      (2) = Low      (1) = Very Low

No.	Factors	5	4	3	2	1
1.						
2.						
3.						
4.						

5.						
6.						
7.						
8.						
9.						
10.						

3. Briefly explain why you consider these institutional factors as key in contributing to delays in timely completion of road construction projects in Kenya.

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4. From your perspective, **kindly rank the significance** of the institutional factors listed below on a scale of 1 – 5 in contributing to delays in timely completion of road construction projects in Kenya.

**Each scale represents the following rating:**

(5) = Very high      (4) = High      (3) = Medium      (2) = Low      (1) = Very Low

No.	Institutional Factors	5	4	3	2	1
1.	Procurement Procedures in the government					
2.	Low capacity of the project implementing teams					
3.	Staff turnover due to transfers					
4.	Number of administrative procedures at the Ministry					
5.	Late release of counterpart funding					
6.	Other development partners conditionalities in the case of pool funding					

7.	Slow decision making at the Ministry and the agencies						
8.	Slow processing of tax exemption applications						
9.	Delayed roll-out of IFMIS						
10.	Lack of standard computerized accounting and procurement						
11.	Absences of procurement plans						
12.	Institutional and capacity weaknesses at Ministry of Finance						
13.	Poor procurement documentation						

### RECOMMENDATIONS

5. What solutions would you propose for addressing the various institutional factors identified to enable completion of road projects in a timely manner.

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**SECTION A**  
**GENERAL INFORMATION – GOVERNMENT OFFICIALS**

a) Age:           Below 25 years    25 – 35 years    36 years and above

b) Gender:       Male        Female

c) Education:   O-Level    Diploma    Graduate    Post Graduate

Others (specify).....

d) State Respondent position in the organization:

- Project Coordinator
- Procurement Specialist
- Project Accountant
- Technical Expert
- Project Staff
- Consultant

e) Type of Organization:

Ministry of Roads  Implementing Agency

f) State the number of years you have worked on the project.

1-4      4-7      7-10      More than 10

## SECTION B

### KEY INSTITUTIONAL FACTORS THAT INFLUENCE DELAYS IN TIMELY COMPLETION OF ROAD CONSTRUCTION PROJECTS IN KENYA

1. In your view, what are the that contribute to the delay in timely completion of projects in the road sub-sector in Kenya?

No.	Factors
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

2. To what **extent** do the factors above influence delays in road construction projects?

**Please list them in the table below and tick (✓) the appropriate box for the significance**

**Each scale represents the following rating:**

(5) = Very high      (4) = High      (3) = Medium      (2) = Low      (1) = Very Low

No.	Factors	5	4	3	2	1
1.						
2.						
3.						
4.						
No.	Institutional Factors	5	4	3	2	1

5						
6						
7						
8						
9						
10						

3. Briefly explain why you consider these institutional factors as key in contributing to delays in timely completion of road construction projects in Kenya.

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4. From your perspective, **kindly rank the significance** of the institutional factors listed below on a scale of 1 – 5 in contributing to delays in timely completion of road construction in Kenya.

**Each scale represents the following rating:**

(5) = Very high      (4) = High      (3) = Medium      (2) = Low      (1) = Very Low

No.	Institutional Factors	5	4	3	2	1
1.	Procurement Procedures					
2.	Financial Management Procedures					
3.	Steps involved in disbursements					
4.	Communication on the fund flow process					
5.	Staff turnover due to transfers					
6.	Development Partners conditionalities					
7.	Slow decision making and executive bureaucracy					

8.	Pool funding arrangements					
9.	Number of administrative procedures required					
10.	Time taken in processing withdrawal applications					
11.	Processing of No Objection requests by the Bank					
12.	Level of thresholds requiring prior approvals					
13.	Limited knowledge of the government procurement and disbursement procedures					

**RECOMMENDATIONS**

What solutions would you propose for addressing the various institutional factors identified to enable completion of road projects in a timely manner.

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